



State of Connecticut
GENERAL ASSEMBLY
Commission on Children



The Importance of Early Language for Learning

By Alice S. Carter, Ph.D., Yale University, Department of Psychology
Written for the Connecticut Commission on Children, August 1997

Language acquisition begins long before the first babbles or the first words. A baby's brain is preparing to speak before any speech sounds are uttered. We communicate with all of our senses. We can begin a dialogue with a touch, a special look, a silly sound, or a sentence. The dialogue is continued with a rhythmic response:

Mother smiles – baby smiles;
Mother blows raspberries – baby smiles;
Mother smiles and blows raspberries – baby puckers;
Mother smiles – baby smiles;
Mother smiles – baby looks away.

The dialogue ends when one partner turns away or there is no response. It is the simple back-and-forth of the early exchanges between the parent and baby that prepare the baby for the complexities of communicating with language.

Recent research highlights the importance of early language stimulation for brain development and later learning. Early pleasurable experiences, such as hearing the sounds of language, looking at a parent's smile, or playing "peek-a-boo," put pathways in the brain that facilitate later learning. New brain imaging technologies have provided us with pictures that allow us to see the explosion of brain development that occurs in the first year of life. The pictures highlight the importance of early experiences in promoting general brain development and in building the specific architecture of the brain – the synapses or pathways that will carry signals from one part of the brain to another.

For language development, the newborn's brain is pre-wired to pay attention to all language sounds. Yet the family environment plays a critical role in the infant's language and brain

development. Over the first few months of life, infants learn to pay particular attention to the special sounds of their own cultures and languages. Their brains are shaped by the language culture they are born into, preparing them to learn the words, behaviors, rules, and strategies that they will need to succeed. The brain images that accompany these changes in the ability to respond to speech sounds suggest that the needed pathways for relevant speech sounds have been cultivated and have expanded. Pathways for sounds that are not heard in the infant's culture have been pruned back, or diminished. Thus, experience activates the pathways and synapses in the developing infant's brain.

It is in the first three years of life that a child's brain is producing most of the new synapses (pathways between brain cells) that will appear in his or her lifetime. At birth, an infant has approximately 100 billion neurons (brain cells). Each one can produce almost 15,000 synapses. Those synapses that are used repeatedly tend to become permanent. Those that are not activated tend to disappear. It is also in the first three years that the child makes the most dramatic gains in language. There is an explosion in vocabulary and sentence use.

Children bring all that they know without words to the task of learning language. The child's early experience of the world is active. He or she seeks order and to understand the basic functions of the objects and people in the world-what one can do with things, what things can do, and the flow of how different people interact with each other. The infant will reach and lift his or her arms up to the mother - communicating his or her wish to be lifted months before the gesture is accompanied by the word "up." The infant whose mother, father or sibling routinely responds to the gesture, with words and body movements, and sounds (e.g., lifting, hugs, smiles, an "ooh" sound), will begin to develop confidence in his or her ability to effect the world through communication. Pathways for language will be cultivated.

When we communicate with our children, which involves both speaking and listening, we are teaching far more than words and sentences. We are letting them know that what they have to communicate and share is important, that they are important, and that we value their contribution. We are teaching how and where to say certain words and sentences and what words and word combinations have special meaning in our lives. We are inviting and helping our children to find words that express their goals, wishes, intentions, and feelings. At ten months of age, sharing may involve the infant pointing to a toy (i.e., sharing a goal) and the parent experiencing his or her smile filling the room when the desired toy is offered (sharing feelings). As goals and feelings become more complex, language will be necessary to maintain and build working parent-child relationships. A strong relationship with a parent helps the child to cope in an increasingly complex world. Children with strong positive ties to their parents appear to be protected biologically. They are more resistant to the ill effects of stress and trauma (e.g., developing fewer infectious illnesses and behavior problems).

Over time, children who have the experience of sharing in dialogue with their parents will not only have more information to bring to new learning situations, but will be more likely to invest themselves in learning. They will understand that their active contribution to the process of learning is valued and that adults will be interested in helping them achieve their goals.

Reading readiness begins long before kindergarten

Just as with language, the rhythms or conventions of reading books are learned long before the child can "sound-out" their first word. Children learn to sit in the parent's lap to attend and listen to a story. They learn that if they point to pictures, their parents will often name the pictures for them. They learn to turn the pages of a book. Often very young children will practice turning the pages of an upside-down book while babbling. This is the beginning of reading.

Children will insist on hearing the same story over and over and over even after they have committed the story to memory. In this way, the child is an active participant in anticipating the story as it unfolds from page to page.

Children who are exposed to books and stories are given a wonderful gift. Their world of knowledge expands beyond the routines they observe in their households and neighborhood. In the early years, the new stories and images become part of their shared experience in the family. While the brain researchers expand our understanding of neural networks, we can all enrich the healthy development of the very young children in our lives. Listen and respond to start a dialogue - you can respond with a smile, a tickle, imitating a baby's babbles, a word, a hug, or offering to read a book. The best news is, the benefits of positive communication are not only for babies. You might find yourself smiling or laughing (and boosting your own biological resistance to stress).